

## Secondary immunodeficiencies and susceptibility to infections in patients with non-Hodgkin's lymphomas during anti-CD20-antibody containing treatments

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**Background:** Only limited real-world data exist about immune status and susceptibility to infections in correlation to anti-CD20-antibody containing therapies in non-Hodgkin's lymphoma (NHL) patients.

**Methods:** Multicenter prospective analysis of 52 NHL patients who started anti-CD20-antibody containing treatments between 04/21 and 11/22. With the help of patient diaries infections over the course of one year were captured. Additionally, diagnosis and treatment data were extracted from medical records retrospectively. Data was statistically analyzed using SPSS 29.

**Result:** So far 52 patients with a median age of 68.5 (32-90) could be analyzed. 54% were male, 46% female. 27% suffered from follicular lymphoma, 25% from CLL and 58% from other NHL. During the observation period 4 patients (8%) died, 2 of them from an infection. The most frequently used protocols were R-CHO(E)P (31%), BR (27%) and rituximab mono (13%). A quantitative determination of T helper cells (CD4 lymphocytes) was carried out in only 11 patients (21%). A comparison of the mean values across all measurements before and after the start of treatment showed a clear difference (1,217/ $\mu$ l vs. 478/ $\mu$ l) ( $p=.052$ ). In 17 patients (33%) a quantitative determination of the IgG trough level was carried out. Mean values across all measurements before (831mg/dl) and after the start of therapy (701mg/dl) were not statistically significantly different ( $p=.124$ ). Standardized to 1,000 days, the mean number of infections before treatment was 2.57 compared to 6.86 across all measurements after the start of therapy ( $p<.001$ ).

**Discussion:** Infectious complications are increased during anti-CD20-antibody therapies in routine care. Immune monitoring is only performed in a minority of patients.

**Conclusion:** We suggest that immune monitoring with measurement of serum IgG-levels, IgG-subclasses and T helper cell counts should be part of routine laboratory analysis during NHL therapy to enable prophylactic and timely actions preventing serious infectious complications.

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